

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

IN RE: TARA CHAND SINGHAL,
Appellant

2014-1704

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board, in No. 11/497,047.

Decided: March 10, 2015

TARA CHAND SINGHAL, Torrance, CA, pro se.

NATHAN K. KELLEY, Office of the Solicitor, United
States Patent and Trademark Office, Alexandria, VA, for
appellee. Also represented by JEREMIAH HELM, MOLLY R.
SILFEN.

Before LOURIE, BRYSON, and CHEN, *Circuit Judges*.

PER CURIAM.

Tara Chand Singhal (“Singhal”) appeals from the de-
cision of the United States Patent and Trademark Office
(“PTO”) Patent Trial and Appeal Board (the “Board”) affirming the Examiner’s rejection of claims 16, 25, and 34 of U.S. Patent Application 11/497,047 (“the ’047 appli-

cation”) as obvious in view of the prior art. *See Ex parte Singhal*, No. 2011-004195 (P.T.A.B. May 1, 2014) (“*Decision*”). Because the Board did not err in affirming the Examiner’s rejection under § 103(a), we *affirm*.

BACKGROUND

Singhal filed the ’047 application with claims directed to a system using two-way communication satellites for regulating the start of a car’s ignition based on a driver’s mental state as determined by response times. Claim 16, which the Board analyzed as representative of the claimed subject matter, reads as follows:

16. A system that prevents temporarily mentally impaired drivers from driving a vehicle comprising:
 - a. a driver mental impairment (DMI) safety system located in a ground station is linked via a communication satellite interface to a control module in the vehicle;
 - b. the DMI safety system in the ground station is connected via Internet that enables driver and vehicle profiles required for a driver mental impairment test to be created and maintained in the ground station via the Internet;
 - c. the DMI safety system from the driver mental impairment test through only an interactive voice response system from the ground station conducts a reaction time test on a vehicle driver to measure the driver’s mental state for safely operating the vehicle enabling centralized operation and management of the DMI safety system from the ground station via the communication

satellite interface, without the need to create and maintain individual driver profiles in the control module in the vehicles.

Decision at 2–3.

The Examiner rejected the claims under 35 U.S.C. § 103(a) as unpatentable in view of the prior art. In particular, the Examiner cited U.S. Patent 6,232,874 of Murphy (“Murphy”), stating that the reference teaches a system that prevents temporarily mentally impaired drivers from driving a vehicle comprising: a driver mental impairment (“DMI”) safety system located in a ground station that is linked via a communication satellite interface to a control module in the vehicle, the DMI system through only an interactive voice response system from the ground station conducts a reaction time test on the driver to measure the driver’s mental state, without the need to create and maintain individual driver profiles in the control module in the vehicles. The Examiner noted that Murphy does not teach a DMI system that is connected via the Internet to allow driver and vehicle profiles to be created and maintained at the ground station, but that U.S. Patent Publication 2007/0134156 of Mizuno (“Mizuno”) teaches such a system to provide an alternative communication protocol and to improve system availability. The Examiner concluded that it would have been obvious to one of skill in the art to combine Murphy and Mizuno, references in the same field of endeavor.

Singhal attempted to distinguish the claimed invention from the prior art by emphasizing that Murphy uses multiple GPS satellites, which transmit one way signals of the satellites’ locations and times to a device in a vehicle to determine the vehicle’s location, whereas the claimed invention uses a single communication satellite for a bidirectional communication link between a ground station and various vehicles. The Examiner found, how-

ever, that the satellite communication taught by Murphy includes bidirectional transmissions, and moreover that nothing in the '047 application's specification or claims specifies a bidirectional communication requirement. The Examiner also found that the additional features, such as vehicle location, do not teach away from the combination of Murphy and Mizuno.

Singhal also asserted that the claimed control module differs from the prior art because the module is not specific to the DMI system, already being a part of a vehicle's OnStar system for satellite communication. Moreover, Singhal noted, the driver and vehicle profiles are stored, not in a control module inside the vehicle, but instead at a central ground station, which also remotely conducts reaction time tests by an interactive voice response ("IVR") system. Singhal contended that the Murphy control module, in contrast, is specifically installed in each vehicle, stores driver profiles within the module, and locally conducts the determination of driver mental state. The Examiner found, however, that it was well known in the art to locate relevant user profiles and corresponding computer code remotely, and further to access and maintain those profiles via the Internet. The Examiner therefore concluded that the claims were unpatentable over Murphy and further in view of Mizuno. The rejection was made final and Singhal appealed to the Board.

The Board agreed with the Examiner that the claims would have been obvious in view of the prior art. The Board agreed that Murphy teaches interactive communication between a base station and a satellite because it discloses a system that sends information to and receives control actions from a base station. *Decision* at 4–5. The Board also agreed that the combined teachings of Murphy and Mizuno disclose the maintenance of driver profiles either at the vehicle or at a remote location connected by satellite communication. *Id.* at 5. The Board further agreed with the Examiner that the limitation of testing

driver impairment by reaction time was met by Murphy's requirement of a biometric indicium within a required response time. *Id.* at 6. The Board rejected Singhal's argument that Mizuno is nonanalogous art, instead finding that Murphy and Mizuno are analogous because "they are in the same field of endeavor of preventing accidents due to driver fatigue or impairment." *Id.* at 6–7. The Board also noted that Singhal incorrectly made his nonobviousness arguments based on the prior art references separately, without considering their combined teachings and the knowledge of one of ordinary skill in the art. *Id.* at 7–8. The Board therefore affirmed the Examiner's rejection under § 103(a).

Singhal appealed from the Board's decision. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4).

DISCUSSION

We review the Board's legal conclusions *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), and the Board's factual findings underlying those determinations for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). Substantial evidence means "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

A claim is unpatentable if, to one of ordinary skill in the pertinent art, the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious. 35 U.S.C. § 103(a) (2006)*; *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406–07 (2007). Obviousness is a question of

* Because the patent application at issue was filed in August 2006, the pre-America Invents Act version of § 103(a) applies. *See Leahy-Smith America Invents Act*, Pub. L. No. 112-29, 125 Stat. 284, 293 (2011).

law, based on underlying factual findings. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Elsner*, 381 F.3d at 1127. The differences between the claims and the prior art, as well as the scope and content of the prior art, are findings of fact. *Graham*, 383 U.S. at 17.

Singhal argues that the Examiner and the Board erred in concluding that the claimed invention would have been obvious in view of Murphy and Mizuno. Singhal maintains that Murphy's teaching of GPS satellites is significantly different from the claimed communication satellite used for conducting a reaction time test. Singhal also disputes the comparison of Murphy's control module with the claimed control module. Singhal further asserts that Mizuno, which he characterizes as teaching a computer system loaded remotely with executable program codes, is not comparable to the claimed system that remotely sets up driver and vehicle profiles at a ground station via the Internet. Singhal also argues that Mizuno is not analogous art, and thus the Examiner improperly used hindsight to combine Murphy and Mizuno, because the scope of the analogous art is defined by an inventor's subjective perspective.

The PTO responds that the Board did not err in finding the claimed invention to be an obvious variation of the system described in Murphy with a communication choice well known in the art, as taught by Mizuno. The PTO argues that substantial evidence supports the Examiner's factual findings and the Board's affirmance of those findings that Murphy disclosed a system meeting nearly all of the claim limitations, and that Mizuno disclosed the remaining limitation as a routine design choice. The PTO also asserts that substantial evidence supports the Board's factual finding that both Murphy and Mizuno are analogous art in the same field as the claimed invention because their disclosures are consistent with preventing accidents due to driver fatigue or impairment.

We agree with the PTO that the Board did not err in concluding that the cited prior art references rendered the claims obvious. As noted by the Board, Murphy teaches the use of a satellite for interactive communications—information from a vehicle system to a base station, and control actions to and from the base station. *See, e.g.*, Murphy col. 4 ll. 18–30. Murphy also teaches restricting driving access based on an interactive reaction time test, as it discloses prompting the provision of various biometric indicia (including voice samples) and required response times for providing such indicia. *See, e.g., id.* col. 4 ll. 42–55, col. 5 ll. 33–65. The prior art further teaches the maintenance of and access to information profiles for assessing driver impairment either locally in the vehicle (Murphy) or remotely via satellite (Mizuno), which provides a finite number—only two—of known and predictable solutions. *See, e.g.*, Murphy col. 4 l. 53–col. 5 l. 20; Mizuno ¶ 105. The additional disclosures in the cited prior art, such as the use of a vehicle’s location, do not teach away from the combination of Murphy and Mizuno. Substantial evidence therefore supports the Board’s and the Examiner’s findings that the combined teachings of Murphy and Mizuno rendered the claimed invention obvious to one of skill in the art at the time of the invention.

We also agree with the PTO that substantial evidence supports the Board’s finding that Murphy and Mizuno are analogous art. We reject Singhal’s contention that the inventor’s subjective intent or knowledge at the time of the invention is the controlling factor in determining whether art is analogous. The scope of the field of endeavor is a factual determination based on the scope of the application’s written description and claims. *In re Bigio*, 381 F.3d 1320, 1326 (Fed. Cir. 2004). If a reference is not within the relevant field of endeavor, it may still be properly considered if it is reasonably pertinent to the problem; that is, if it would have *logically* commended

itself to an inventor's attention. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). The Board and the Examiner correctly found that the relevant field of endeavor was preventing accidents due to driver fatigue or impairment, instead of the more narrow definition of the field of endeavor that Singhal proposed, because the '047 application's specification and claims are not so limiting. Substantial evidence therefore supports the Board's finding that Murphy and Mizuno are in the same field of endeavor and thus are analogous art.

CONCLUSION

We have considered Singhal's remaining arguments and find them unpersuasive. We conclude that the Board's factual determinations are supported by substantial evidence and we agree with its ultimate legal conclusion of obviousness. Accordingly, the decision of the Board is affirmed.

AFFIRMED